THAT WHICH IS CLAIMED:

1. A winding core comprising:

a hollow cylindrical core member having an inner surface, an outer surface, and first and second ends; and

a chuck-engaging layer affixed on the inner surface of the core member, wherein the chuck-engaging layer is softer than the core member.

2. A winding core according to Claim 1, wherein the core member comprises an inner layer defining the inner surface and an outer layer defining the outer surface.

3. A winding core according to Claim 2, wherein the inner layer comprises a paper-based material and the outer layer comprises glass fiber reinforced plastic.

4. A winding core according to Claim 1, wherein the chuck-engaging layer comprises a polymeric material.

5. A winding core according to Claim 4, wherein the polymeric material of the chuck-engaging layer is polyurethane.

6. A winding core according to Claim 1, wherein the length of the core member is about 4.32 meters.

7. A winding core according to Claim 1, wherein the core member is about 180 millimeters in outer diameter.

8. A winding core according to Claim 1, wherein the core member is about 154.4 millimeters in inner diameter.

9. A winding core according to Claim 1, wherein the chuck-engaging layer is about 2 millimeters in thickness.

10. A winding core according to Claim 1, wherein the chuck-engaging layer extends a portion of the length of core member proximate to each of the first and second ends such that the chuck-engaging layer does not extend the entire length of the core.

11. A winding core assembly comprising:

a hollow cylindrical core member having an inner surface, an outer surface, and first and second ends;

a chuck-engaging layer located on the inner surface of the core member, wherein the chuck-engaging layer is softer than the core member; and

a chuck operable to engage the chuck-engaging layer on the inside surface at the first end of the core member such that the chuck is coupled to the core member.

12. A winding core assembly according to Claim 11, wherein the core member comprises an inner layer defining the inner surface and an outer layer defining the outer surface.

13. A winding core assembly according to Claim 12, wherein the inner layer comprises a paper-based material and the outer layer comprises glass fiber reinforced plastic.

14. A winding core assembly according to Claim 11, wherein the chuck-engaging layer comprises a polymeric material.

15. A winding core assembly according to Claim 14, wherein the polymeric material of the chuck-engaging layer is polyurethane.

16. A winding core assembly according to Claim 11, wherein the chuck comprises a double row of expanding elements for engaging the chuck-engaging layer.

17. A winding core assembly according to Claim 11, further comprising a second chuck operable to engage the chuck-engaging layer at the second end.

18. A winding core assembly according to Claim 17, wherein each chuck is about 500 millimeters in length and has an active length of about 420 millimeters.

19. A winding core assembly according to Claim 18, wherein the chuck-engaging layer extends at least 420 millimeters in length proximate to the first and second ends such that each chuck is operable to engage each chuck-engaging layer.

20. A winding core assembly according to Claim 11, further comprising a motor coupled to the chuck, wherein the motor drives the chuck about an axis of rotation extending longitudinally through the core member.

21. A winding core assembly according to Claim 20, wherein the motor rotates the winding core assembly at a chuck factor of at least 0.85.

22. A method of winding a web material comprising:

providing a hollow cylindrical core member having an inner surface, an outer surface, and first and second ends;

affixing a chuck-engaging layer on the inner surface of the core member, wherein the chuck-engaging layer is softer than the core member;

engaging a chuck to the chuck-engaging layer on the inside surface of the core member at the first end such that the chuck is coupled to the core member; and

rotating the chuck about a longitudinal axis extending through the core member such that a web material is wound about the outer surface of the core member.

23. The method according to Claim 22, wherein rotating the chuck rotates the core member at a chuck factor of at least 0.85.

24. The method according to Claim 22, wherein the affixing step comprises coating the inner surface of the core member with a polyurethane while the core member is rotating.

25. The method according to Claim 22, wherein the affixing step comprises affixing the chuck-engaging layer proximate to each of the first and second ends such that the chuck-engaging layer does not extend the entire length of the core member.

26. The method according to Claim 25, further comprising engaging a second chuck to the chuck-engaging layer at the second end such that the second chuck is coupled to the core member.

27. The method according to Claim 22, further comprising rotating the chuck such that the web material is unwound off of the core member.